Topics:
- Resolution of Russell's Paradox
- Some other paradoxes
- Start Ch. 1 on Regular Languages \([Sip]\)

Section 1: Finite Automata (DFA's)

Section 2: Non-deterministic Finite Automata (NFA's)
Breakout Room Questions:

1. Come up with your own paradox (related to those of §5.6 of Handout)

2. Give a DFA that recognizes

\[ \{0, 3, 6, 9, 12, 15, \ldots \} \subset \{0, \ldots, 9\}^* \]

3. Give a DFA that recognizes

\[ \{0, 3, 6, 9, 03, 06, 09, 12, 15, \ldots \} \]

4. Give a DFA that recognizes

\[ \{e, 0, 3, 6, 9, 03, 06, 09, 12, 15, \ldots \} \]

5. Is there a DFA that recognizes

\[ \{0, 7, 14, 21, 28, 35, 42, \ldots \} \]
6) Give a DFA that recognizes
\[ \{1^5, 1^7\} \subset \{1\}^* \]

7) Give a DFA that recognizes
\[ \{1^5, 1^7\}^* \subset \{1\}^* \]